

**STATE OF HAWAII
DEPARTMENT OF HEALTH
CLEAN WATER BRANCH**

**SECTION 401 WATER QUALITY CERTIFICATION (WQC)
INITIAL STAFF EVALUATION (ISE)**

**WQC No.: WQC 0000154a
Originator: Mr. Darryl Lum
Date: October 6, 2004**

1.a. Applicant:

Department of Land and Natural Resources (DLNR)
Division of Aquatic Resources
1151 Punchbowl Street, Room 330
Honolulu, Hawaii 96813

Contact: Mr. William S. Devick, Administrator
Ph. (808) 587-0100

1.b. Agent:

Not Applicable (N/A)

Application:	Dated	Date Received
	February 6, 2004	February 18, 2004
Additional Information:	Date	Date Received
	April 15, 2004	April 15, 2004
	May 25, 2004	May 27, 2004

2. Project Name and Location:

Artificial Reef Development at Five Existing Sites off the Islands of Oahu and Maui

3. Associated Federal Permit or License:

U.S. Army Corps of Engineers Section 404 of the Clean Water Act (CWA) and
Section 10 of the Rivers and Harbors Act (RHA) of 1899
Army File No. 200400154

4.a. Description of Proposed Activity:

The DLNR is applying for a new DA Individual Permit to continue artificial reef maintenance and expansion activities at five (5) existing artificial reef sites off the islands of Oahu and Maui. The prior DA permit (File No. PODCO 2234) expired on December 31, 2003.

The DLNR has indicated that the proposed project provides the public with additional fishing and diving opportunities through the creation of artificial reefs at the five (5) existing sites. These established locations are in relatively flat, barren, and unproductive areas of the ocean bottom, and are naturally barren or devoid of coral reefs. The new habitat would provide additional shelter for various reef fish species and other marine life, and may increase reef fish population and increase coral growth..

Material to be used to construct the reefs consist of contaminant-free vessels and surplus concrete material. No wood, plastics, or other pollutants are utilized. Staff from the DLNR, United States Coast Guard (USCG), or the Department of Health (Department) will inspect all potential reef material for contaminants and for potential hazards to divers. Deployment of the artificial reef material usually takes between two to four hours.

Locations, boundaries, and sizes of the five (5) existing artificial reef sites are described as follows:

<u>LOCATIONS</u>	<u>BOUNDED BY</u>	<u>ACREAGE</u>	<u>YEAR CONSTRUCTED</u>
Ewa Beach (Oahu)	A. 21°16'49"N, 158°01'21"W B. 21°16'56"N, 158°01'07"W C. 21°16'41"N, 158°01'17"W D. 21°16'49"N, 158°01'03"W	31 acres	1986
Kualoa (Oahu)	A. 21°34'42"N, 157°51'09"W B. 21°35'04"N, 157°50'26"W C. 21°31'42"N, 157°48'56"W D. 21°31'54"N, 157°48'24"W	1,727 acres	1972
Maunalua Bay (Oahu)	A. 21°14'58"N, 157°46'34"W B. 21°15'14"N, 157°46'03"W C. 21°15'06"N, 157°45'58"W D. 21°14'50"N, 157°46'29"W	74 acres	1961

<u>LOCATIONS</u>	<u>BOUNDED BY</u>	<u>ACREAGE</u>	<u>YEAR CONSTRUCTED</u>
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Waianae (Oahu)	A. 21°25'35"N, 158°11'58"W	141 acres	1963
	B. 21°25'36"N, 158°11'45"W		
	C. 21°24'48"N, 158°11'54"W		
	D. 21°24'48"N, 158°11'40"W		
Keawakapu (Maui)	A. 20°41'18"N, 156°27'36"W	52 acres	1962
	B. 20°42'18"N, 156°27'30"W		
	C. 20°41'48"N, 156°27'18"W		
	D. 20°41'48"N, 156°27'12"W		

EVALUATION:

The applicant has indicated that there should not be any adverse effects on existing aquatic animals and habitats from the proposed activity. Any disturbances to existing animals and habitat will be temporary and limited to the duration of the deployment of the artificial reef material.

On February 18, 2004, the Clean Water Branch (CWB) received a Section 401 WQC application from the DLNR which was transmitted with a letter (dated February 9, 2004) from Mr. Peter T. Young, Chairperson, Board of Land and Natural Resources. A Public Notice (PN200400154, dated March 8, 2004) from the Honolulu Engineer District (HED) of the U.S. Army Corps of Engineers (COE) indicated that the work is subject to COE's jurisdiction under CWA, Section 404 and RHA, Section 10. The Section 401 WQC application was revised on April 15, 2004 and May 25, 2004. Based on a request contained in item 15 of the revised Section 401 WQC application, the staff recommends that a "Notice of Proposed Section 401 Water Quality Certification" (hereafter the "PN") shall be published in the appropriate newspaper to fulfill the applicable Federal and State public participation requirements. The PN shall be placed in the **Honolulu Star Bulletin** and **The Maui News** in accordance with the "**STATEWIDE PUBLICATION OF PUBLIC AND PROCUREMENT NOTICES (IFB-02-064-SW) *July 1, 2004 through June 30, 2005**" (SPO Price List No. 02-31, revised May 3, 2004) to fulfill the applicable State's public participating requirements.

- 4.b.** Materials to be temporarily or permanently placed into the five (5) existing sites identified under this Section 401 WQC application include the following:

Source	Composition	Quantity	Duration
Vessels	Steel	Various	(Permanent)
Concrete Material	Concrete/Rebar	Various	(Permanent)

EVALUATION:

The processing of a Section 401 WQC application shall ensure that the project construction related discharge activities will comply with both the Federal and State

Antidegradation Policies as specified in Section 131.12 of Title 40, Code of Federal Regulations (CFR), and HAR, Subsection 11-54-01.1, respectively.

40 CFR §131.12(a) requires that:

“The State shall develop and adopt a statewide antidegradation policy and identify the methods for implementing such policy pursuant to this subpart. The antidegradation policy and implementation methods shall, at a minimum, be consistent with the following:

- (1) Existing water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.
- (2) Where the quality of the waters exceed levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected unless the State finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the State's continuing planning process, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. In allowing such degradation or lower water quality, the State shall assure water quality adequate to protect existing uses fully. Further, the State shall assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control.
- (3) Where high quality waters constitute an outstanding National resource, such as waters of National and State parks and wildlife refuges and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected...”
- (4) In those cases where potential water quality impairment associated with a thermal discharge is involved, the antidegradation policy and implementing method shall be consistent with Section 316 of the CWA.

Existing State requirements as specified in **HAR, §11-54-01.1** General policy of water quality antidegradation: “Waters whose quality are higher than established water quality standards shall not be lowered in quality unless it has been affirmatively demonstrated to the director that the change is justifiable as a result of important economic or social development and will not interfere with or become injurious to any assigned uses made of, or presently in, those waters.”

40 CFR 131.12.a(1), a(2) and a(3) requirements and HAR, §11-54-01.1 apply to the five (5) existing sites. The DLNR stated in item 8.d of the Section 401 WQC application that the existing uses include recreational/commercial fishing and diving activities.

Potential effects include increased opportunities for additional fishing and diving activities. The applicant has also indicated that there should not be any adverse effects on existing aquatic animals and habitats from the proposed construction activity. Any disturbances will be temporary and limited to the duration of deployment (two to four hours).

Therefore, based on information provided by the DLNR in the Section 401 WQC application, the proposed project may be considered meeting 40 CFR 131.12(a) requirements if water quality necessary to maintain the existing uses is maintained during the project construction and operation.

5. CLASS OF RECEIVING WATER AND RECREATIONAL USES AT THE DISCHARGE SITE:

All five (5) existing artificial reef sites are classified by the Department as “Class A, Marine Waters” and “Class II, Marine Bottom Ecosystems”.

EVALUATION:

HAR, §11-54-03(c)(2) states, in part, that “It is the objective of class A waters that their use for recreational purposes and aesthetic enjoyment be protected. Any other use shall be permitted as long as it is compatible with the protection and propagation of fish, shellfish, and wildlife, and with recreation in and on these waters. These waters shall not act as receiving waters for any discharge which has not received the best degree of treatment or control compatible with the criteria established for this class. No new sewage discharges shall be permitted within embayments.”

Hawaii Administrative Rules (HAR), §11-54-03(d)(2) states, in part, that “It is the objective of Class II marine bottom ecosystems that their use for protection including propagation of fish, shellfish, and wildlife, and for recreational purposes not be limited in any way. The uses to be protected in this class of marine bottom ecosystems are all uses compatible with the protection and propagation of fish, shellfish, and wildlife, and with recreation.”

As indicated in 4a, 4b, and 4c above, in this project, existing uses will be protected and the artificial reef material will be contaminant free. Thus, this project complies with the objective of Class A, marine waters and Class II, marine bottom ecosystems.

6. BIOLOGICAL, CHEMICAL, THERMAL AND ANY OTHER PERTINENT CHARACTERISTICS OF THE DISCHARGE:

The following information is contained in items 10.e:

Characteristics of the discharge and potential pollutants associated with the proposed construction activity

Source	Composition	Quantity	Duration
Vessels	Steel	Various	(Permanent)
Concrete Material	Concrete/Rebar	Various	(Permanent)

EVALUATION:

The proposed discharge is acceptable.

The applicant indicated the following:

“Potential environmental effects include temporary increased turbidity due to deployment activity normally lasting between a few minutes to a few hours.

There are no potential chemical environmental effects.

Potential biological environmental effects include an increase in reef fish population and increased coral growth.”

7. TREATMENT APPLIED TO DISCHARGE AND DEGREE OF TREATMENT EXPECTED:

All materials that will be placed into the five (5) existing sites will be cleaned (including steam clean if necessary) of all contaminants or suspected contaminants and debris from any and all equipment, containers, and surfaces. No wood, plastics, or other pollutants will be discharged.

EVALUATION:

The proposed treatment is acceptable.

All material used to construct the artificial reef will be inspected by representatives of the DAR, USCG, or the Department. Inspections will be performed on all vessels and concrete material prior to being considered artificial reef material and after any recommended cleaning of all contaminants prior to deployment.

8. EXPECTED COMMENCEMENT AND TERMINATION DATES:

According to Item 9. of the application:

- a. Provide the estimated date or dates on which the activity will begin and end:
Activity will begin after the DA permit is granted and will end when the existing sites are deemed at capacity.
- b. Provide the date or dates that the discharge(s) will take place:
Detailed information on the type and quantity of material to be deployed will be submitted to the CWB no later than two (2) weeks prior to commencement of each artificial reef placement action. A letter notifying CWB of a pending addition with detailed information on the material to be added, the approximate date of this action, the artificial reef site, the agencies and contract companies involved, and other pertinent information will be sent two weeks prior to any proposed addition.

EVALUATION:

Acceptable.

9.a. METHODS AND MEANS OF MONITORING WATER QUALITY AND CHARACTERISTICS OF DISCHARGE (INCLUDING TREATMENT OPERATIONS AND CONTROL):

1. Description of the methods and means being used or proposed to monitor the quality and characteristics of the discharge

Underwater SCUBA surveys will document underwater structures and marine life after deployment. Survey methods include but are not limited to fish transecting methods and video/still photography.

The applicant also conducts literature searches for scientific studies on various aspects of artificial reefs, including pollution. To this date they have not identified any valid information indicating that the deployed material has, is, or will cause any harm to the marine environment. The applicant has indicated that they will conduct a comprehensive water quality monitoring plan to analyze any long-term pollution associated with the deployed artificial reef material if they find any scientific proof that the artificial reef material may be harming the marine environment.

2. Description of the methods and means being used to monitor/maintain all pollutant control measures

Inspection of all vessels prior to being considered as artificial reef material and after vessels are cleaned of all contaminants. Inspection of all other materials (i.e. z-shaped concrete fish habitats, old concrete piers/pilings, miscellaneous surplus concrete material) are done before these materials are considered as potential reef material and after any recommended cleaning prior to deployment.

3. Reporting requirements

CWB will be notified by letter and by phone prior to any deployment operations. They are also informed of potential and questionable pollutants on any vessel or other material during the inspection period.

4. A narrative of how the monitoring results will be used to demonstrate whether or not the project construction activity was in compliance with the applicable State water quality standards

Monitoring results using fish transect techniques and photographs/video records would indicate a net gain in commercial/recreational important aquatic organisms.

Evaluation:

Acceptable, as long as the DLNR submits the following information to the CWB:

- 1) A commencement of work notification letter not later than two (2) weeks prior to the commencement date of each artificial reef placement activity. Such notification shall include:
 - (a) the material(s) to be placed, the quantity; and
 - (b) the location, commencement date and termination date of the permitted artificial reef placement activity.
- 2) Two (2) copies of the water quality monitoring photographs taken each time during and immediately after deployment of the artificial reef construction materials. The copies shall be submitted not later than two (2) weeks after conducting such a visual monitoring. The applicant shall conduct visual water quality monitoring each time during and immediately after the deployment of the artificial reef construction materials. The results shall be documented by photograph/video. Videos shall be submitted to the CWB when requested.
- 3) In addition, any changes in monitoring location, frequency, dates or methods or corrections to data already on file with the Department shall be submitted as such changes or corrections arise.

9b. AN APPLICABLE MONITORING AND ASSESSMENT PLAN CONTAINED IN THE February 6, 2004 APPLICATION HAVE BEEN PROVIDED.

YES X NO

EVALUATION:

The submission of the submitted monitoring plan is listed in Item 9.a above.

10. IN ACCORDANCE WITH THE HAWAII ADMINISTRATIVE RULES, DEPARTMENT OF HEALTH, CHAPTER 11-54, WATER QUALITY STANDARDS, THE APPLICANT HAS PROVIDED A STATEMENT OF ASSURANCE THAT THE PROPOSED ACTIVITY WILL BE CONDUCTED IN SUCH A MANNER WHICH WILL NOT VIOLATE THE BASIC WATER QUALITY CRITERIA APPLICABLE TO ALL WATERS AND THE SPECIFIC WATER QUALITY CRITERIA APPLICABLE TO THE CLASS OF RECEIVING WATERS WHERE THE PROPOSED DISCHARGE(S) WOULD TAKE PLACE.

YES X NO

OVERALL EVALUATION:

Acceptable. The applicant has properly signed the Certification page as specified in item 17 of the Section 401 WQC application.

11. SUPPORTING DOCUMENTATION SUBMITTED: YES X NO

- a. Set of Maps for the Five Existing Artificial Reefs (Sept. 2000)
- b. Conservation District Use Permit OA/MA-7/29-75-703 (7/29/75)
- c. U.S. Dept. Of Army Permit PODCO 2234 (6/28/93)
- d. Department of Health 401 WQC 0000154 (4/29/93)
- e. CZM Consistency Determination (7/22/92)
- f. Environmental Assessment for the Five Existing Reefs (1970's)
- g. List of Materials Deployed at the Five Existing Reefs (1961-present)
- h. Proceedings of a Special Session of State Artificial Reef Programs in the United States, pp. 29-42 (Nov. 1991)
- i. Quick-Look Report on Wave-Induced Instability of Artificial Reef "Z" Units
- j. Video of the five existing sites.

EVALUATION:

Acceptable. Listed supporting documentation are received.

12. INITIAL RECOMMENDATION OF SECTION 401 WATER QUALITY CERTIFICATION:

In accordance with CWA, Section 401(a), HRS, Chapters 91, 92 and 342D, it is recommended that a conditional Section 401 WQC be issued to the DLNR for the subject project construction after the public participation procedure through the publication of Public Notice (PN) of Proposed Water Quality Certification in the Honolulu Star Bulletin and The Maui News. Public involvement and participation shall play an important role and shall be the main procedure in this individual Section 401 WQC application processing and decision making. Additional information and comments collected during the public comment period will provide the CWB with additional and useful information to determine whether granting a conditional Section 401 WQC for this project construction, as proposed, is appropriate or additional conditions are needed to address public concerns. A draft PN of Proposed Section 401 WQC is attached. Refer to Attachment B.

If the outcome of the PN indicates that the determination of conditionally granting a Section 401 WQC is appropriate, it is recommended that the final Section 401 WQC shall, at least, include the conditions as proposed in Attachment D - the proposed Section 401 WQC. The proposed Section 401 WQC is enclosed as part of this ISE to expedite the Section 401 WQC application processing. These conditions are deemed necessary initially based on an evaluation of the Section 401 WQC application and supporting information which are relevant to water quality concerns. Additional conditions

can and shall be added to properly address all comments or concerns raised during the public comment period.

With the incorporation of these recommended conditions, there is reasonable assurance that the subject activity will not violate the applicable water quality standards and with the applicable provisions of Sections 301, 302, 303, 306, and 307 of the “Act”, 33 U.S.C., Sections 1311, 1312, 1313, 1316 and 1317.